

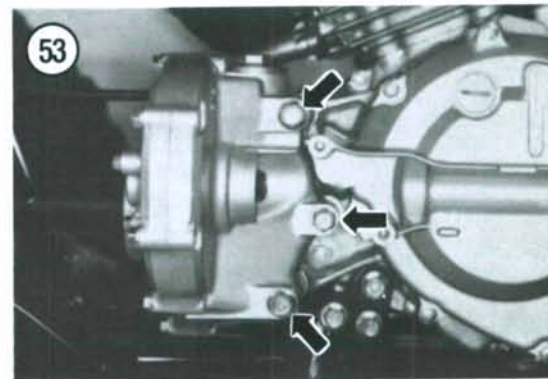
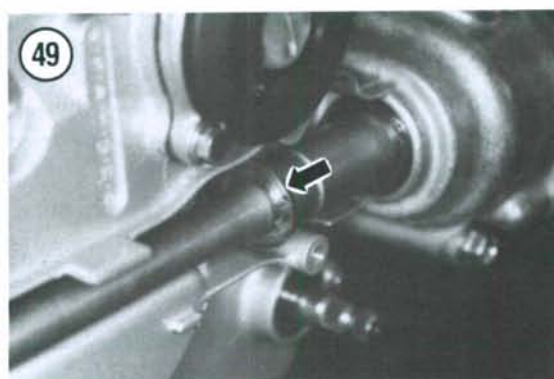
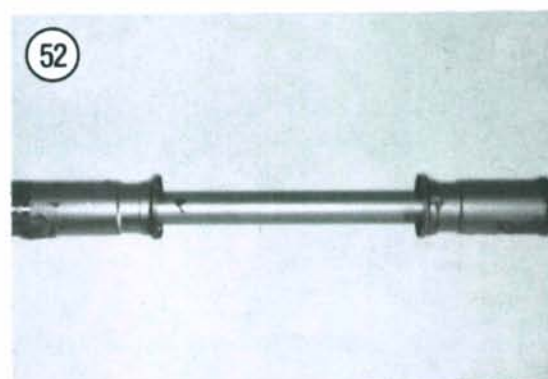
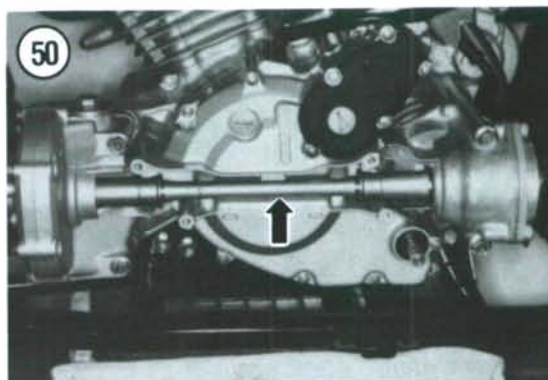
### Inspection

1. Inspect the splines of the joints (**Figure 51**) and the side drive shaft for wear or damage. Replace if necessary.
2. Inspect the O-rings for damage or deterioration, replace if necessary.
3. Check the side drive shaft (**Figure 52**) for cracks, fractures or damage, replace if necessary.

### FRONT GEAR CASE

#### Removal/Installation

1. Remove the front fender as described in Chapter Thirteen.
2. Remove the side drive shaft as described in this chapter.
3. Drain the oil from the front gear case as described in Chapter Three.
4. Remove the bolts securing the propeller shaft cover (**Figure 45**) and remove the cover.
5. Remove the front gear case mounting bolts (**Figure 53**) on the left-hand side.
6. Remove the front gear case mounting bolts and bracket (**Figure 54**) on the right-hand side.
7. Carefully move the front gear case (A, **Figure 55**) to the left-hand side, pull the propeller shaft toward the front gear case and remove the propeller shaft (B, **Figure 55**) from the front differential.
8. Remove the front gear case and the propeller shaft from the left-hand side of the frame.
9. Installation is the reverse of these removal steps.  
Note the following:
  - a. Apply molybdenum disulfide grease to the splines of each end of the propeller shaft and to the oil seal of the front differential.



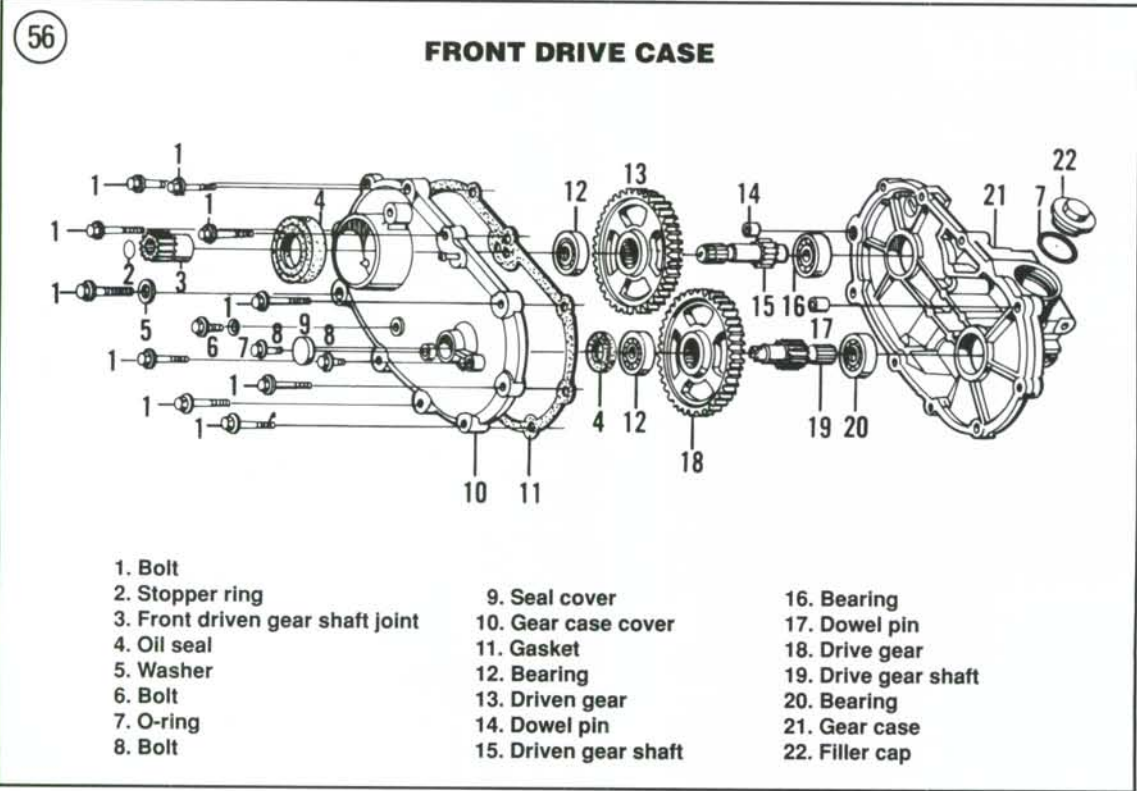
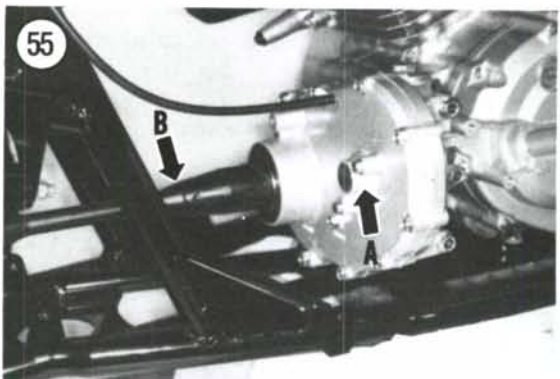
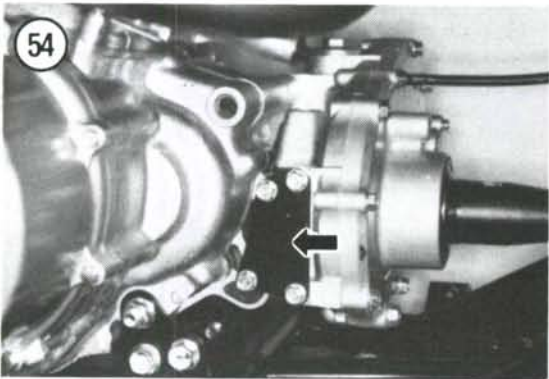
- b. Correctly position the propeller shaft with the “ENG” mark facing toward the front gear case and install this end into the front gear case.
- c. Carefully install the front gear case and propeller shaft into the frame. Insert the propeller shaft into the front differential and slightly rotate the propeller shaft in order to align the splines of both parts.
- d. Install the mounting bracket and bolts and tighten to the torque specifications listed in Table 1.

- e. Install the propeller shaft cover and tighten the bolts securely.
- f. Fill the front gear case with the recommended type of oil as described in Chapter Three.

Disassembly/Assembly

Refer to **Figure 56** for this procedure.

- 1. Remove the stopper ring (A, **Figure 57**) and the front driven gear shaft joint (B, **Figure 57**).





2. Remove the oil drain bolt and sealing washer (C, **Figure 57**).
3. Using a criss-cross pattern, loosen then remove the front gear case cover bolts (D, **Figure 57**).
4. Remove the cover and gasket. Don't lose the locating dowels.

#### NOTE

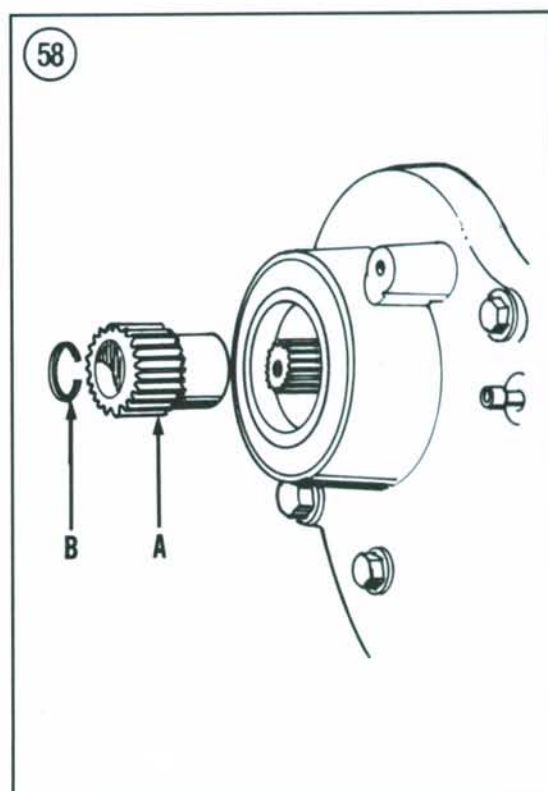
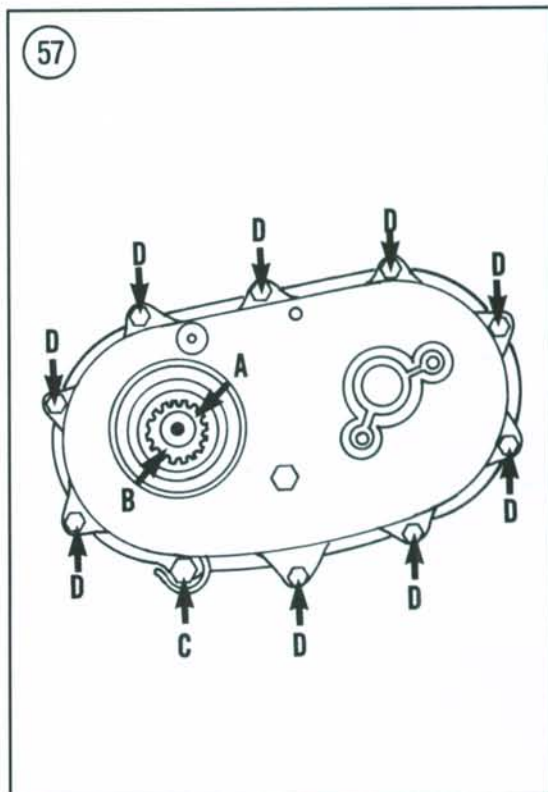
*The drive and driven gears are identical (same Honda part No.) and can be used on either gear shaft. If the vehicle is well run-in (high mileage) the splines and gears may have taken a wear pattern. It is advisable to reinstall the same gear onto its original shaft (the shafts are not symmetrical). Mark each gear with a punch mark or marking pen so they will be reinstalled in the same shaft.*

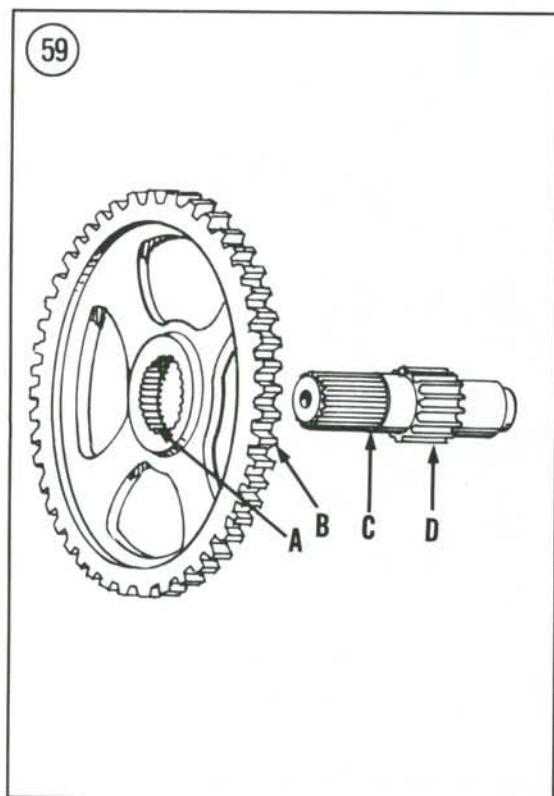
5. Remove the drive gear and shaft and the driven gear and shaft.
6. Inspect the components as described in this chapter.
7. Install the shafts into the correct receptacles in the case. The drive gear shaft has splines at the rear to couple with the side drive shaft. The driven gear shaft has splines at the front in order to couple with the front driven gear shaft joint.
8. Install the drive and driven gears onto their respective shafts.
9. Make sure the locating dowels are in place. Clean the gasket mating surfaces as described under *Inspection* and install a new gasket.

#### CAUTION

*The cover and case should fit together without force. If they do not fit together completely, do not attempt to pull them together with the cover screws. Remove the cover and investigate the cause of the interference and correct it. Do not risk damage trying to force the cover and case together.*

10. Install the cover onto the case and push it down until it bottoms out.
11. Install the cover screws and tighten in a criss cross pattern in 2-3 stages. Tighten the cover bolts to the torque specifications listed in **Table 1**.
12. Install the drain bolt and sealing washer and tighten to the torque specifications listed in **Table 1**.
13. Install the front driven gear shaft joint (A, **Figure 58**) and the stopper ring (B, **Figure 58**). Make sure





the stopper ring is correctly seated in the shaft groove.

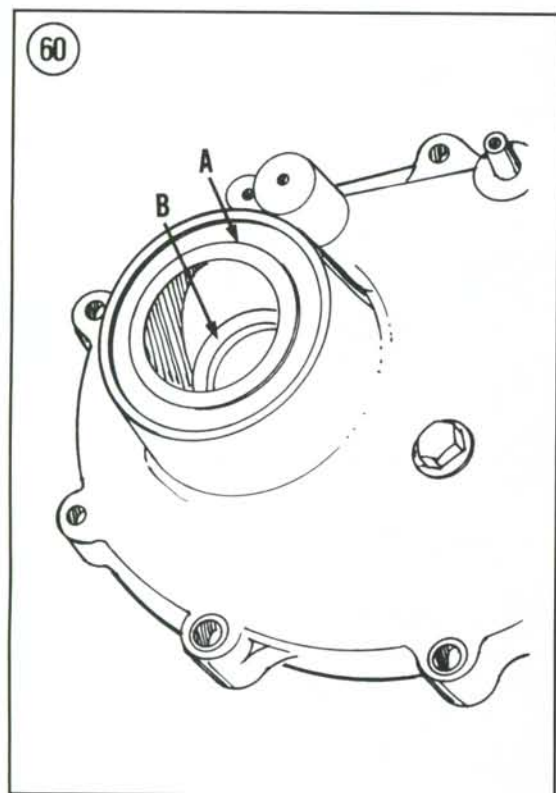
### Inspection

1. Thoroughly clean the inside and outside of the cover and case, the shafts and the gears with solvent and dry with compressed air.
2. Remove all traces of old gasket material from all sealing surfaces of the case and cover.
3. Inspect the drive and driven gear inner splines (A, **Figure 59**) for wear or damage.
4. Inspect the gear teeth (B, **Figure 59**) for wear or damage.
5. If one of the gears is damaged, it is recommended that both gears be replaced as a pair.
6. Check the splines on the drive and driven gear shafts (C, and D, **Figure 59**) for wear or damage. Replace the shaft(s) if necessary.
7. Inspect the shaft bearings in the case and cover for wear or damage. Rotate the inner race with your finger. It should rotate freely and quietly, if not replace the bearing(s) as described in this chapter.

### Case and Cover Bearing Replacement

The driven gear shaft bearing in the case and the drive gear shaft bearing in the cover are each in a blind hole. These bearings require special tools to remove them. It may be less expensive to have a dealer remove them for a nominal bench fee than to purchase the special tools required to remove them. The special tools and procedures are covered in this section if you decide to remove the bearing(s) yourself.

1. To remove the bearing(s) not in blind holes, perform the following:
  - a. Remove the oil seal. Refer to A, **Figure 60** for the cover or A, **Figure 61** for the case.
  - b. Place the cover on a piece of soft wood.
  - c. Carefully tap the old bearing out of the cover with a drift and hammer. Refer to B, **Figure 60** for the cover or B, **Figure 61** for the case.
2. To remove the bearing(s) in a blind hole, perform the following:
  - a. Install the 17 mm bearing remover (Honda part No. 07936-3710300) into the bearing and expand it behind the inner race.
  - b. Attach the handle (Honda part No. 07936-3710100) onto the bearing remover, then at-



tach the weight (Honda part No. 07936-3710200) onto the handle.

- c. Carefully withdraw the old bearing out of the cover or case.

3. To install the bearings into the case, perform the following:

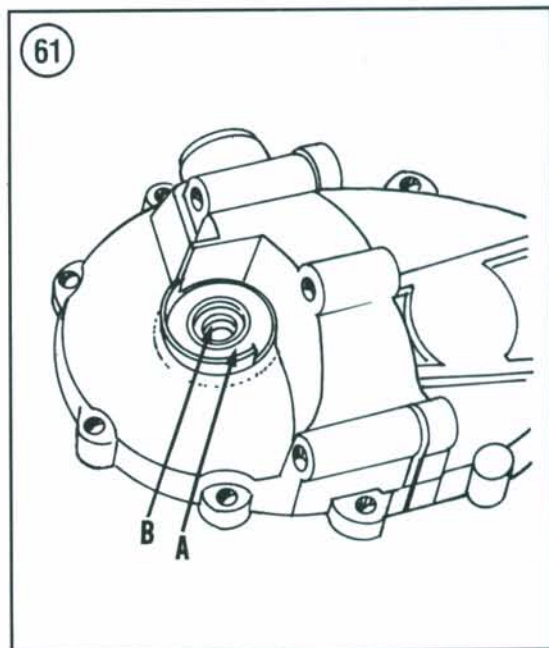
- a. Apply a light coat of multipurpose grease to the outer surface of the bearing outer race and onto the receptacle in the case or cover.

#### CAUTION

*Do not tap on the bearing inner race or the bearing will be damaged.*

- b. Use a socket that matches the outer race diameter and tap only on the outer race. Tap the bearing squarely into place until it bottoms out in the case.

4. Install a new oil seal and apply a light coat of grease to the seal lips. Refer to A, **Figure 60** for the cover or B, **Figure 61** for the case.



**Table 1 FRONT DRIVE MECHANISM TIGHTENING TORQUES**

Item and Model	N•m	ft.-lb.
Front differential case bolts		
8 mm	26	19
10 mm	48	35
Front differential mounting bolts		
Mounting bracket bolts		
1988-1992	20	14
1993	22	16
Front mounting bolts	45	33
Upper mounting bolts	45	33
Lower mounting bolts	45	33
Side drive shaft cover bolts	10	7
Front gear case mounting bolts		
6 mm	12	9
8 mm	25	18
Front gear case bolts		
Cover bolts	12	9
Drain bolt	22	16

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